

# THE SURPRISING WORLD OF LICHENS

MAY 30, 2020

**COURSE LEVEL: III COURSE #: S3078**  
**FEE: \$80 PER ADULT AGES 16 AND OLDER**



**Rocky  
Mountain  
Conservancy**  
FIELD INSTITUTE

**INSTRUCTOR: JENNIFER FRAZER**

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**LOCATION: Rocky Mountain Conservancy - Field Institute & Conference Center**  
**1895 Fall River Road, Estes Park, Colorado**

**TIME: 8:30 AM - 4:30 PM**

**COURSE DESCRIPTION:** You cannot hike, bike, climb, or ski in Colorado without encountering lichens, but few people take the time to notice or examine these ubiquitous organisms. Take your blinders off and be blown away by the biology and beauty of these fascinating communities of organisms that live where other life forms cannot. In this class, you'll learn about the inhabitants, anatomy, growth forms, and reproductive structures of lichens. You should invest in a 10X hand lens or loupe to maximize your enjoyment. Artists and photographers welcome!

**COURSE LEVEL: III**

Moderate hikes of less than five miles per day with elevation gain of less than 1,000 ft.

**BRIEF INSTRUCTOR BIOGRAPHY (additional information available at [www.RMCnservancy.org](http://www.RMCnservancy.org)):** Jennifer is an award-winning science writer, blogger for *Scientific American*, and trained mycologist. She is a member of the Colorado Mycological Society, has been a guest on Radiolab, and has participated as a group leader in two scientific surveys of the fungi of Rocky Mountain National Park. She is passionate about making biology and natural history fun and entertaining for others.

**INSTRUCTOR'S WEBSITE:** *The Artful Amoeba*, <http://blogs.scientificamerican.com/artful-amoeba/>

**EXPECTATIONS:** Professional conduct will be expected from participants at all times. Individual ideas will be respected. Except during course breaks, cellular phones, pagers, and personal entertainment devices are strictly prohibited in the classroom and during field sessions.

**COURSE OBJECTIVES:**

1. Describe what a lichen is, how it's built, and the types of organisms that live inside.
2. Learn how to distinguish among the major lichen growth forms, substrates, and reproductive structures.
3. Explore lichen chemistry and ecology.
4. Learn some of the most common species of Colorado lichens both in class and in the field.

**TENTATIVE COURSE SCHEDULE:**

8:30 AM – 10:30 AM	Welcome; Introductions; Lecture; Q&A
10:30 AM – 12:00 PM	Depart for field; Begin hike; Lunch; Q&A
1:00 PM – 4:30 PM	Continue lichen hike; Arrive at Field Institute; Evaluations; Depart

**WHAT TO BRING:**

**Sack lunch, snacks, hat, sunscreen, water, and 10X hand lens or loupe. A magnification device is vital.**

## REMEMBER TO BRING THE 10 ESSENTIALS:

Rocky Mountain National Park recommends that hikers always carry the 10 essentials in their daypacks.

- Rain gear
- Map and compass
- Flashlight or headlamp
- Sunglasses and sunscreen
- Candles
- Matches or other fire starter
- Pocket knife
- First-aid kit
- Extra layers of clothing
- Sack lunch, snacks, water

*Note: Rocky Mountain Conservancy-Field Institute recommends that participants for all courses dress in layers and wear comfortable, sturdy hiking boots/shoes. Participants should be prepared for sudden changes in temperature and weather conditions.*

## OPTIONAL READING:

*Lone Pine Field Guide to the Plants of the Rocky Mountains*, by Kershaw, MacKinnon, and Pojar

- Although lichens are manifestly NOT plants, *Plants of the Rocky Mountains* is a delightful field guide I use all the time for wildflowers. It contains a user-friendly lichens section in the back. The focus is heavily on subalpine tree- and ground-dwelling lichens which are quite common in Rocky Mountain National Park. If you buy one field guide, this is the one to get.

*A Color Guidebook to Common Rocky Mountain Lichens*, by Larry L. St. Clair

- St. Clair's book is thorough, technical, has good color photographs, and includes dichotomous keys, but is dry as a bone.

*Field Guide to the Lichens of White Rocks (Boulder, Colorado)* by Erin Tripp

- Erin Tripp's field guide is colorful and well-written but focuses on rock-dwelling lichens found at low altitude in Boulder County on the Fox Hills sandstone.

*Lichens of North America* by Irwin Brodo, Sylvia Duran Sharnoff, and Stephen Sharnoff

- *Lichens of North America* is the bible of lichens on our continent, and it is both a joy to read and, most of all, to look at. The Sharnoffs were professional photographers, and it shows. It is not a field guide, however. This is the book to use when you need to press botanical specimens: my copy weighs eight and a half pounds. It costs \$125 but is worth every penny if you want to learn about lichen diversity or impress your friends with gorgeous macro shots of lichens.

## REFUND POLICY:

Cancellations received at least 14 days prior to the start of a class will qualify for a refund minus a cancellation fee of \$25 per participant for a one-day class, \$50 for a multi-day class, \$5 per kid's class and \$15 per half-day class or bus tour seat. Registration money transferred to another class will be subject to a \$10 switch fee.

Cancellations received less than 14 days prior to the start of a class or bus tour will not generate a refund. If the Field Institute cancels a class, every effort will be made to place the participant in another class; otherwise, a full refund will be given.

## TEACHER RECERTIFICATION CREDIT:

Most courses are eligible for teacher recertification credit through the Centennial Board of Cooperative Education Services (BOCES). The fee is \$25 per class (.5 units) or \$25 per series of threaded courses (1.0 - 3.0 units). A list of threaded courses can be found online at [www.RMConservancy.org](http://www.RMConservancy.org). Participants must enroll in all courses of a threaded series in order to qualify for the \$25 multi-unit fee. Please be prepared to pay for this credit with a check, made payable to BOCES, on the first day of a class or on the final day of a threaded series of courses.